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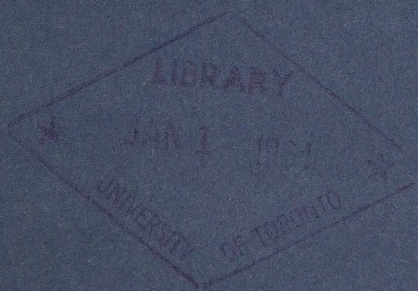






Government  
Publications

# Supply and Demand University Graduates



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**1963 • 64**

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Publications

# Supply and Demand University Graduates 1963-1964



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## TABLE OF CONTENTS

### Page

5	INTRODUCTION
7	ESTIMATED MONTHLY STARTING SALARIES
8	PASS ARTS AND SCIENCE
8	HONOURS ARTS AND SOCIAL SCIENCE
9	Economics and Political Science
9	Psychology
9	Sociology
10	ARCHITECTURE
10	BIOLOGICAL SCIENCES
12	Agriculture
12	Forestry
13	COMMERCE AND BUSINESS ADMINISTRATION
13	EDUCATION
15	Elementary
15	Secondary
15	University
16	ENGINEERING
16	Chemical Engineering
17	Civil Engineering
17	Electrical Engineering
17	Mechanical Engineering
17	HEALTH PROFESSIONS
18	Dentistry
18	Medicine
19	Pharmacy
19	Physiotherapy and Occupational Therapy
19	Veterinary Science
21	Nursing
21	HOUSEHOLD SCIENCE
22	LAW
22	LIBRARY SCIENCE
24	MINERAL SCIENCES AND MINERAL ENGINEERING
24	Geology and Geological Engineering
24	Geophysics and Geophysical Engineering
26	Mining and Metallurgical Engineering
26	PHYSICAL SCIENCES
28	Chemistry
28	Mathematics
28	Physics
29	SOCIAL WORK
30	THE NES STUDENT PLACEMENT SERVICE
31	INSTITUTIONS OF HIGHER EDUCATION

TABLE OF CONTENTS

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## INTRODUCTION

THIS publication is prepared annually by the Executive and Professional Division of the National Employment Service and is intended primarily for distribution to graduate, graduating and undergraduate students now enrolled at Canadian universities and colleges. The information contained may also be of value to prospective employers of students, to teachers and to vocational counsellors, particularly at the high school level.

The material used in this booklet is the latest available information relating to the manpower supply and demand in the various professions. Caution should be observed in using the information regarding the sizes of the graduating classes in each of the professions as it consists only of estimations based on preliminary 1963 statistics. However, past editions of this booklet have shown these estimates to be reasonably accurate guides.

Comments on the different groups of graduating students are arranged alphabetically, preceded by a section on the 1963 estimated monthly starting salaries. The concluding section describes the role played by the National Employment Service in the employment of university students.

### Graduations

Excluding those obtaining degrees through part-time study or through summer courses, approximately 27,000 students graduated in 1963 with first degrees or equivalent diplomas. In addition, an estimated 3,450 received graduate degrees, consisting of 3,100 Masters and 350 Doctorates. Total graduations, therefore, were in the neighbourhood of 31,000 in 1963, an increase of 17 per cent over the 1962 total of 26,500. In 1964 it is expected that the total number of those receiving degrees, either Bachelor, Master or Doctorate, will approach the 37,000 mark.

Graduating classes may be expected to become larger in the coming years as the enrolments at Canadian universities and colleges continue to increase rapidly. Full time enrolment reached 141,388 students in 1962-63, representing an increase of approximately ten per cent over the previous year. Allowing for the same rate of increase in 1963-64, some 156,000 full time students will be studying at institutions of higher learning throughout the country.

Due to circumstances beyond our control, the table of Estimated Graduations by Disciplines, which customarily appears as the centre page of the booklet, could not be published this year. Steps are now being taken to ensure that this information will be made available in refined and expanded form in 1964 and ensuing years.

### Salaries

The table of estimated monthly starting salaries offered to the 1963 graduating student reflects principally the rates paid by larger national employers. Starting salaries offered by local employers may either be above or below these figures depending upon economic conditions.

The trend towards higher starting salaries for new graduates is again evident in the rates reported for the 1963 graduate. Increases are noted in nearly all disciplines with the most substantial being in mathematics, pharmacy, commerce and business administration, commerce for C.A. articles, economics and political science, ranging from five per cent for economic and political science graduates up to ten per cent for graduates in mathematics. Salaries in the engineering profession are from 1.5 per cent to 3.5 per cent higher than the previous year, with metallurgical engineering showing the largest increase.

## **Trends**

A large increase in enrolments in graduate schools has been noted during the past few years, as possession of a Master's or Doctorate degree is becoming the essential qualification in an increasing number of professions. For example, in some of the scientific fields and in psychology, the Master's degree is virtually a necessity for recognized professional standing. It will be observed throughout this booklet that there is an increasing demand by employers for graduates possessing higher degrees.

The increasing enrolments at Canadian universities and colleges has put a strain on existing facilities. A number of United States universities facing the same problem, including the University of Pittsburgh, Pennsylvania State University, plus the universities in Florida, have adopted the 12-month university plan, thus obtaining maximum use of the available facilities. Sir George Williams University and the University of Waterloo already have operations of a similar nature in effect, and the new Simon Fraser University in British Columbia will have an academic year of 12 months. Under such a plan, universities and colleges will be able to handle larger enrolments with the same facilities and to graduate students in a shorter length of time.

The co-operative engineering course at the University of Waterloo has now switched to the trimester plan, in which eight four-month terms of university work on the campus are alternated with six four-month terms of organized and supervised training in engineering practice. The university was formerly on the quarter system in which three months of study were followed by three months of practical work experience.

One of the disciplines now omitted from this booklet is petroleum engineering. This course has now been entirely discontinued at the Bachelor level, although some universities offer a number of related courses. However, the graduate program is being continued at the University of Saskatchewan.

## **Acknowledgements**

We gratefully acknowledge the invaluable assistance received from various professional associations, individuals, institutions of higher education and other organizations. Without their excellent co-operation, the publication of this booklet would not be possible. Whenever possible, references to the sources of information are made in the text.

Particular reference must be made to the Education Division of the Dominion Bureau of Statistics who supplied information concerning the number of graduates in each discipline, and to the Pay Research Bureau of the Civil Service Commission who conducted the survey of the national employers active in the recruitment of university graduates.



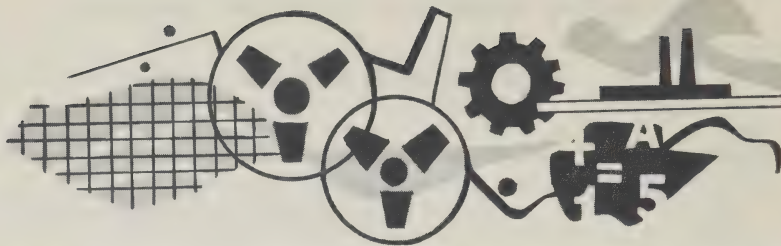
## ESTIMATED MONTHLY STARTING SALARIES

### 1963 University Graduates

DISCIPLINE	BACHELORS \$ per Month	MASTERS \$ per Month	DOCTORS \$ per Month
General Arts & Science (Pass Degree)	370	—	—
Honours Biological Sciences	409	—	—
Honours Chemistry & Biochemistry	419	479	699
Honours Economics & Political Science	393	462	—
Honours Geology	445	—	658
Honours Mathematics	430	—	—
Honours Mathematics & Physics	430	490	—
Honours Physics	420	—	—
Honours Psychology	360	—	—
Chemical Engineering	437	485	700
Civil Engineering	434	—	—
Electrical Engineering	431	—	—
Engineering Physics	435	—	—
Mechanical Engineering	440	490	—
Metallurgical Engineering	440	487	—
Mining Engineering	460	—	—
Petroleum Engineering	432	—	—
Agriculture	410	—	—
Forestry	410	—	—
Commerce & Business Administration	400	451	—
Commerce for CA Articles Only	345	—	—
Education	444	—	—
Home Economics	380	—	—
Library Science	375	—	—
Nursing	347	—	—
Pharmacy	470	—	—
Physiotherapy	356	—	—
Social Work	375	—	—

The above table of estimated average monthly starting salaries relates only to 1963 university graduates. Although starting salaries can change significantly from year to year, past issues of this publication have shown them to be a fairly accurate indication as to what may be expected by the following year's graduates.

The data used in compiling the 1963 Estimated Monthly Starting Salaries was obtained from two sources, a survey of personnel engaged in the placement of university students in employment, and a survey of national employers active in the recruitment of university graduates. In instances where there was insufficient information or the sample was too small to provide a valid estimate, no figures are given.



## PASS ARTS AND SCIENCE

It is anticipated that the number of pass arts and science graduates in 1964 will be slightly more than 20 per cent higher than in the previous year, and this group will constitute approximately half of the total number of students receiving first degrees. This is a continuation of the relatively high growth rate which was reported in this discipline last year.

However, many of these graduates will not be entering the employment market directly upon graduation. Most professions require specialist training and education beyond the Bachelor's degree, and many graduates will therefore continue to further study. Those with the highest academic standing may be admitted to graduate school, but most will proceed to professional degree studies in such fields as law, library science, and social work.

Those pass arts and science graduates who do enter the employment market can expect to find employment in a wide variety of occupations in government, business and industry. Increasing numbers of personnel are required each year for administrative, research, sales and other types of positions, and many employers engage graduates at the Bachelor level as junior executives to train with a view to promotion to senior positions.

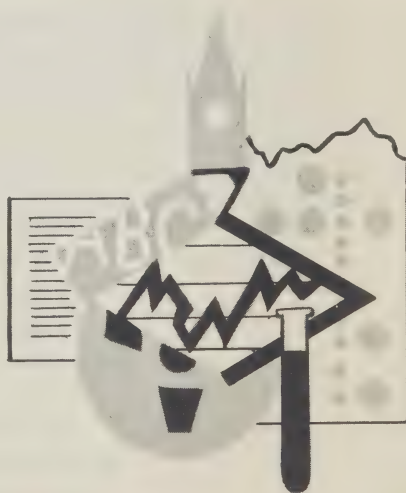
Although opportunities for pass graduates occur in almost every segment of the industrial and occupational pattern, there are two specific areas where the demand has shown significant recent increases.

Excellent opportunities are to be found in the expanding field of electronic data processing, where the demand for programmers and other specialists continues at a high level. For this type of career, a solid background in mathematics, and generally a knowledge of accounting, is required. The field of accounting is also opening up to pass arts and science graduates as a number of firms are beginning to employ, as stu-

dents-in-accounts, graduates from other than accounting courses.

In the sales field, the demand for graduates remains fairly constant, with excellent opportunities for pass science graduates as sales representatives for pharmaceutical and chemical firms.

Starting salaries for the new graduate have shown an increase over the previous year, but remain amongst the lowest reported for any discipline.



## HONOURS ARTS AND SOCIAL SCIENCE

CONTINUING the trend observed in the past two years, there will again be an increase in the number of graduates in honours arts. The 1964 class is expected to be approximately 20 per cent larger than the 1963 class. In the social sciences, only a small increase in the number of graduates can be expected, principally from psychology and economics courses.



The graduate with an honours arts degree will find that it is a fine basis for careers in many fields, including teaching, social work, administration and journalism. However, an M.A. or a Ph.D. is usually required for professional qualification in most areas of arts study.

There have been indications of an increased demand for social science graduates. A survey conducted by the Economics and Research Branch of the Department of Labour reported that nine per cent more social scientists will be needed by 1964. Broken down by employment sector, Canadian universities and colleges will require 13 per cent more social scientists while industry and government see their needs increasing by nine and eight per cent respectively. The greatest need appears to be in the fields of sociology and statistics where 13 and 10 per cent increases respectively are required.

One half of the personnel employed in the fields of economics, sociology and statistics is employed by government agencies, predominantly the federal government, while 30 per cent are employed by industry, and 20 per cent by universities and colleges.

### **Economics and Political Science**

A ten per cent increase in the number of graduates in economics and political science is expected in 1964, compared with last year's rather modest increase of three per cent. Indications are that there is a growing demand for graduates from these disciplines, particularly among the universities. It is estimated that 7.8 per cent more economists will be needed by 1964, with universities needing the greatest number.

The various government agencies together constitute the largest employer of graduates in these disciplines. Approximately 46 per cent of the economists were employed in government service, with 34 per cent in the federal government. Industry employs approximately 35 per cent of the economists while universities employ about 19 per cent. Outside the field of economics there are employment opportunities available in sales, general administrative work and related fields.

Employment at the university level generally involves the possession of a graduate degree, preferably a Ph.D. Some universities may employ Masters graduates while further studies are being completed. It would appear, however, that there are few career

opportunities in the academic field for those who do not plan to obtain a Doctorate.

Starting salaries for graduates in economics and political science have shown a substantial increase over those offered to the previous years' graduates.

### **Psychology**

The present demand for psychologists still far exceeds the supply available in Canada. This situation is expected to continue for many years to come and well-qualified graduates should be able to find excellent job opportunities in the various fields employing psychologists.

Mental hospitals, universities and clinics employ the largest number of psychologists although there are many other avenues of employment open to those who are professionally qualified. Industry is now employing the services of the psychologist to a much greater degree as judicious selection, appropriate training and correct placement of employees become increasingly important to the success of their operations.

Educational counselling and guidance is another field offering the fully-trained psychologist expanding employment opportunity. Increased recognition of the life-long benefits to be derived from expert counselling in students' early years has stimulated demand for the services of the psychologist at all levels of education.

In government service, psychologists are usually engaged in personnel, clinical and research work. Psychologists may also practice independently, usually as clinical, vocational and industrial consultants.

All positions with the title "Psychologist" require training beyond the Bachelor degree. A Master degree in psychology is essential as almost all psychologists now employed in Canada possess at least an M.A. Those contemplating a career in psychology should be prepared to continue academic training to the Ph.D. level. A period of internship is required for those planning a career in clinical psychology.

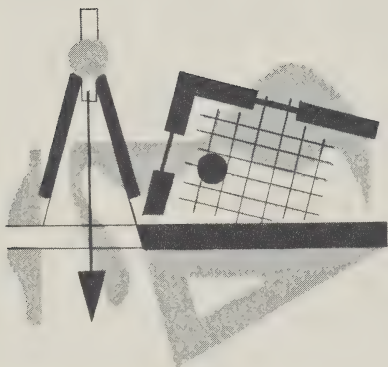
### **Sociology**

The 1964 graduating class is expected to be approximately the same size as that of last year.

The majority of sociologists are salaried employees, the principle employers being the various federal and provincial government agencies and the universities where opportunities exist both to teach and to con-

duct research in this field. There are limited openings with the larger business organizations and with advertising agencies. However, business and industry generally do not employ sociologists as such. They are usually engaged in market research projects and in the planning of advertising campaigns.

In this field, as in an increasing number of others, a graduate degree is necessary for professional qualification. For academic positions in universities a Ph.D. is generally required.



## ARCHITECTURE

THERE is expected to be an increase of approximately ten per cent in the 1964 graduating class over that of 1963.

Graduates in architecture will find that excellent employment opportunities exist in private practice and in the offices of government and industrial concerns. However, entry into private practice is contingent upon registration in a particular province.

The demand for architecture graduates in 1963-64 is expected to remain constant as the amount of building in Canada continues to increase at a fairly steady rate. The profession is fully employed and starting salaries for the new graduate are good.

Canada now possesses seven schools of architecture, each fully equipped to meet the demands of the profession. Most graduates enter the profession with a Bachelor of Architecture degree, although an increasing number of students continues on to graduate study in order to undertake research work or to teach.

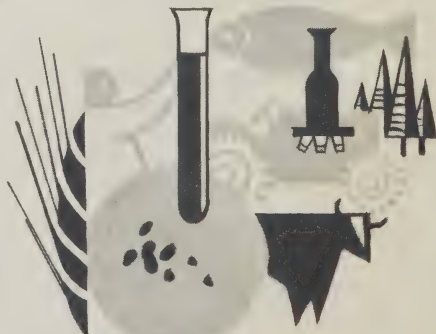
## BIOLOGICAL SCIENCES

THE biological sciences include botany, zoology, bacteriology, biochemistry, entomology, microbiology and all associated courses of study.

The majority of biological scientists find employment with government agencies and educational institutions. To graduates in some of the biological science fields industry also offers attractive opportunities. Continuing emphasis on research, growth in the number of universities and the expansion of present ones, combine to brighten the employment outlook for the new graduate.

The trend is for graduates in biology to continue their education at the graduate level. Almost two thirds of the biologists in Canada now have Master's or Doctor's degrees. For the well qualified, employment prospects continue to be excellent.

Degree courses in medical laboratory science are now being offered at the University of Alberta in Edmonton and at the University of Saskatchewan, reports the Canadian Society of Laboratory Technologists. Diploma courses are given at the University of Montreal and Laval University, while the University of British Columbia will offer extension courses in advanced medical laboratory technology beginning in the fall of 1963. Employment opportunities for university graduates are chiefly in the larger centres, particularly in the research laboratories of universities and large hospitals. This would apply primarily to graduates with specialization in bacteriology and biochemistry.







One of the more rapidly expanding biological science fields is microbiology. Pharmaceutical firms, breweries and food companies as well as government agencies and universities employ graduates from this discipline.

An increase of more than 20 per cent is expected in the number of graduates in the various disciplines constituting the biological science field.

### **Agriculture**

There is expected to be a seven per cent increase in the number of graduates in agricultural science, compared to last year's rather large increase of 15 per cent.

The trend of a decreasing number of farms is being accompanied by a tremendous increase in the specialized industries serving agriculture. The application of science to agriculture as well as the marketing, financial, supply and processing divisions of the agricultural business are developing rapidly and are providing many new job opportunities for persons trained in various fields in agriculture. Traditional employers, such as universities and governmental agencies are also expanding agricultural services and thus providing many new job openings.

It is estimated that there are potential openings for up to 1,500 agricultural science graduates in Canada each year, yet the supply of new graduates totals less than half this number.

In the field of research, the majority of job opportunities are with governmental agencies and universities. The agricultural scientist may be engaged in plant and animal breeding, pest control or animal disease research as well as in the reclamation and rural sociology.

In industry, graduates may find employment in the processing and manufacturing of food, grain, feed, seed and fertilizer, while the farm machinery industry employs some agricultural engineering graduates. There are also employment opportunities in the vast number of firms which serve the farmer and handle his production. In private business, agriculture graduates may find satisfying work in greenhouses, nurseries, in florist shops or as landscape artists.

In the communications field, the agricultural graduates are well suited for work on farm and daily newspapers, market reporting, farm and trade publications and agricultural advertising. Such areas of resource development as conservation, utilization and development of renewable resources, flood control, irrigation projects and soil surveys, are some of the other fields in which the agricultural graduate may find suitable employment.

Graduates, especially those at the Bachelor level, are in strong demand in the commercial and industrial field. The demand at this level has created a shortage of students proceeding to graduate study and consequently there is a lack of personnel sufficiently qualified to carry on research and other projects requiring advanced training.

### **Forestry**

Reversing the trend observed in the past two years, the 1964 graduating class is expected to be approximately ten per cent larger than that of 1963.

The need for the services of the professional forester is likely to increase commensurately with demands for the products of forest operations, expansion of the research activities of the Federal Department of Forestry, and emphasis of the trend toward more intensive management of forest land in the relatively accessible areas of the country. At present, the federal and the various provincial governments employ about 40 per cent of the foresters in Canada, while the forest industries employ another 40 per cent.

As in almost every other profession, specialization in the field of forestry is advancing. For example, the faculty of forestry at the University of British Columbia offers eight fields of specialization including business administration, products and wood technology, silvics, pathology and wildlife management. The curriculum at the University of New Brunswick now offers six optional programmes, one of which the student must elect upon entering his third year. Each of the four forestry schools now offer graduate programmes leading to advanced degrees in certain branches of forestry where specialization is desired. In an increasing number of forestry fields, especially if research-orientated, a doctorate is a prerequisite.





## COMMERCE AND BUSINESS ADMINISTRATION

THE 1964 graduating class is expected to be approximately 13 per cent higher than in 1963, continuing a trend observed over the past few years.

The Canadian Institute of Chartered Accountants reports that there is still a strong demand for university graduates with a wide variety of degrees to train in the offices of chartered accountants with a view to earning their C.A. degree. In recent years professional firms have been looking more and more to other university faculties in addition to commerce and business administration, to meet their growing staff requirements. Graduates in law, engineering, science and the liberal arts in increasing numbers have joined the steady flow of commerce graduates as students-in-accounts. Experience has proven that the broad background provided by any of these courses constitutes a suitable foundation for technical accounting training and other professional skills. The C.I.C.A. further reports that the profession has accepted in principle a proposal that possession of a university degree become a necessary qualification for entry into C.A. training.

The accounting profession continues to offer excellent career opportunities for the new graduate. Insurance companies, manufacturing concerns, private industry and governmental agencies all employ a good number of accountants. Outside the accounting field, graduates may find many fine job opportunities as sales trainees, sales representatives or in personnel work and advertising.

The rapidly developing field of electronic data processing has had its effect on the accounting profession. The size and complexity of business is demanding faster in-

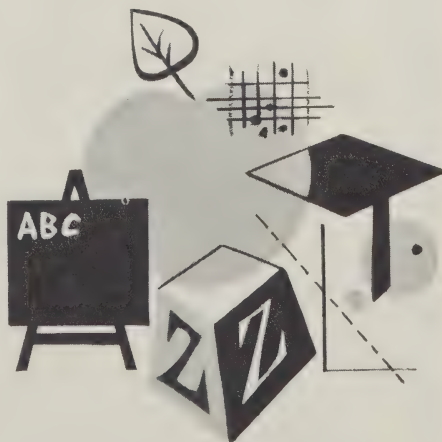
formation and better controls. In the early days of EDP, electronic engineers and mathematicians were in charge of computers. However, the study and programming of business problems and a knowledge of clerical routines and business organizations has created a need for accountants in this field. It is a rapidly developing field and it is estimated that within ten years the majority of accountants will have to have some knowledge in this area.

Starting salaries are good in the general employment field while salaries for those articling for a C.A. degree show a substantial increase over those paid to 1963 graduates.

## EDUCATION

DURING the 1962-63 academic year more than four and one-quarter million people were enrolled in general education at the elementary, secondary or university level, excluding enrolment in such occupationally orientated institutions as trade schools, schools of technology and teachers' colleges. About 72 per cent of this school population was in elementary schools, 22 per cent in secondary schools, between three and four per cent attending kindergarten and between two and three per cent in colleges and universities.

In the past, there have been serious shortages of teaching personnel at the elementary and secondary school level. However, the supply of graduates qualified to teach at this level has been steadily increasing and in a few years some provinces may even have a surplus of teachers. Some school



boards have taken advantage of this increasing supply to raise their minimum qualifications and to replace those holding marginal qualifications. The current demand is for those with specialist training and for university professors.

The increased emphasis on the benefits of education, plus the desire of many people to raise their own qualifications partially explains the great increase in enrolments in adult education courses. Recent estimates place the number of Canadians now registered in such courses at well over the 1,000,000 mark with approximately 150,000 of these engaged in correspondence courses.

This has created some demand for additional teaching personnel and administrators in this field.

Teacher training is conducted in teachers' colleges (*écoles normales* in Quebec) and in university departments or faculties of education. In Newfoundland, Alberta and British Columbia all teacher training is given in the provincial university, including Victoria College in British Columbia. Full-time enrolment in teachers' colleges in 1962-63 reached 21,000 while enrolment in the various faculties of education approached the 12,000 mark.





## **Elementary**

It now appears that the supply of new elementary school teachers is adequate to fill existing demands created by expansion and retirement. Some departments of education have taken advantage of this high level of supply to upgrade their entrance and certificate requirements. Entrance and certification requirements vary from province to province and those contemplating a career in elementary school teaching should address enquiries to the provincial body concerned.

The Canadian Teachers' Federation reports that at present four Canadian Universities, the University of British Columbia, the University of Alberta, the University of Saskatchewan, and Memorial University, offer differentiated programs leading to Bachelor of Education degrees in elementary teaching. Macdonald College offers a Bachelor of Education degree valid for teaching all grades, elementary and secondary. Some proficiency in art and music is a definite asset at this level of teaching.

The majority of the elementary school teachers are graduates of either teachers' colleges or normal schools. There has been, however, an increasing number of university graduates entering the teaching profession at the elementary school level, as opportunities for advancement are greatly increased by their higher qualifications.

## **Secondary**

Even though high school enrolments are increasing and the current trend is toward staying in school longer, the supply of secondary school teachers appears to be meeting the demand. In fact, some provinces may have a surplus of high school teachers within the next two years. However, there still exists a need for teachers with specialist training. At present, high school specialists in mathematics, science, home economics and commercial work are in particular demand. In addition, the current emphasis in many provinces on expanding various types of technical and vocational education at the secondary school level means that many more teachers in these fields will be required.

Recently an increasing number of opportunities have been opening up in newer fields such as educational research, guidance and educational psychology. Graduate courses leading to the Master's or Doctor's degree in education are a definite help to advancement within the profession.

The increasing supply of secondary school teachers has permitted some school boards to replace less qualified personnel and to upgrade their entrance requirements. The trend is toward all teachers at the secondary school level possessing degrees.

Salaries vary from province to province with a tendency toward higher salaries in a westerly direction. Starting salaries offered teachers are now competitive with starting salaries offered for similar qualifications in other professional fields.

## **University**

Full-time enrolment in Canadian universities and colleges reached 141,388 in the 1962-63 academic year. This represents a 9.7 per cent increase over the previous year and almost double the enrolment of seven years ago. In 1970-71 it is estimated that approximately 312,000 students will be enrolled in university, more than twice as many as in 1962-63. To keep pace with this tremendous growth, a proportionate increase in the number of university teachers will be required. In 1962-63 there were approximately 11,500 full-time teachers and research workers in Canadian universities and colleges, and this number will have to rise to about 14,000 in 1965-66 and to 25,000 in 1970-71. Indications are that this demand for university teachers will be met, as there has been a marked growth in graduate school enrolments. We can, therefore, expect a substantial increase in the number of Master's and Doctorate graduates during the coming years.

For those contemplating an academic career at the university level, a graduate degree, preferably a Ph.D., is essential. In 1962-63, almost 80 per cent of the teachers employed in Canadian universities had at least one graduate degree, with over 45 per cent of these having a Ph.D. Only a small percentage have not gone beyond the bachelor degree; many of these are instructors or demonstrators in elementary courses. In professional schools, such as engineering and medicine, a first degree is frequently sufficient qualification. However, in general, teachers possessing the Doctorate are in the majority in the senior academic ranks and receive higher salaries, on the average, than those with no degree beyond the Master's.

Salaries continue to show an upward trend and some of the large universities now compare quite favourably with the salaries offered by United States universities. The

Dominion Bureau of Statistics reports that salaries have risen 6.6 per cent from 1960-61 to 1962-63. Salaries in the Atlantic provinces are still somewhat lower than in the rest of Canada.



## ENGINEERING

THE demand for engineers continues to be strong in industry, government and universities. It has been estimated that Canadian industry will require some 30 per cent more engineers by 1967. A recently conducted survey by the Federal Department of Labour showed that the universities see their needs rising at the rate of 10.7 per cent for engineers. The greatest increase in demand in the engineering professions is expected to be in the industrial and mechanical fields. The same survey stated that the vacancy rate for engineers was 6.2 per cent. Broken down, the vacancy rate in government service was 7.9 per cent, in industry six per cent and in universities 2.9 per cent.

The Bachelor's degree is the recognized professional qualification in the engineering fields. However, a Master's degree is almost essential and a Ph.D. preferable for those contemplating an academic career.

The faculty of engineering at Queen's University has introduced a new course entitled Mathematics and Engineering. This course is designed to prepare students for

research or teaching in those branches of engineering in which mathematics is a major tool. The central core of the course consists of pure and applied mathematics with emphasis on engineering problems. The course includes basic science and engineering, together with specialized training in a specific engineering discipline such as thermodynamics, control systems and communications. The first year of the course is in common with other engineering courses. The second year will begin in 1964-65.

The faculty of engineering at the University of Waterloo has announced the extension of the co-operative principle to graduate studies for engineers. This program of graduate study will permit an engineer to bring his knowledge up to date and earn a graduate degree while still working. This new program will begin in the Fall of 1963.

The Engineering Institute of Canada reports that in the province of Quebec there is an increasing demand for bilingual engineers, who command higher salaries.

The total number of graduates in the various engineering disciplines in 1964 is expected to be approximately the same as that of 1963. An increase is anticipated in the number of chemical engineering graduates and a small decrease in the number of civil engineering and engineering physics graduates. The 1964 classes in electrical and mechanical engineering are expected to be slightly higher than those of 1963.

### Chemical Engineering

Chemical engineering is one of the few engineering disciplines expected to show an increase in graduates in 1964 over the previous year. The anticipated increase is approximately 15 per cent. This is a reverse of the trend observed in 1963 when there was a drop of 12 per cent from the 1962 total.

There is an increasing trend towards graduate study in this field. The Chemical Institute of Canada reports that about one-third of those graduating at the Bachelor's level are now expected to proceed to graduate study. Relatively few chemical engineering graduates leave Canada, the majority appearing to find satisfactory positions in their field in this country. The Engineering Institute of Canada reports that there is a continuing high demand for chemical engineers.

Starting salaries for the new graduate are slightly higher than last year.



## **Civil Engineering**

There will again be a decrease in the number of civil engineering graduates. The 1964 graduating class is expected to be approximately seven per cent smaller than the 1963 class, almost the same rate of decrease as that of the previous year.

Although there has been no appreciable increase in demand for civil engineers in the past year, the well-qualified graduate should be able to secure satisfactory employment in the many fields utilizing civil engineers. Construction firms, consulting firms and various governmental agencies employ a substantial number of civil engineers. Outside the construction business civil engineers may find employment in such diverse fields as the pulp and paper industry, petroleum industry, the utilities field and power generating and distributing industry.

Starting salaries have shown a moderate increase over the previous year and remain good for the new graduate.

## **Electrical Engineering**

A small increase of about five per cent is expected in the number of graduates in electrical engineering, reversing the trend observed last year when there was a decrease of ten per cent.

Graduates should experience little difficulty in finding suitable employment as there is a constant demand for electrical engineers in such fields as electrical design and manufacturing, in the various areas of transportation, communication, and public utilities and in the electronic computing devices field.

The great majority of electrical engineers, some 86 per cent, are employed in industry with manufacturing, transportation and communication employing approximately two thirds of these. Government agencies employ 11.5 per cent of the electrical engineers with 8.6 per cent being employed by the Federal Government. Universities and colleges employ less than three per cent of all electrical engineers in Canada.

Starting salaries have shown a small increase and are generally good.

## **Mechanical Engineering**

There is expected to be a small increase of approximately three per cent in the number of mechanical engineering graduates in 1964. This is about the same size as the increase noted in 1963.

The Engineering Institute of Canada reported that the demand for mechanical engineering graduates continues to be high. A recent survey by the Department of Labour shows that a 7.3 per cent increase in demand for mechanical engineers in 1964 is anticipated. This is one of the highest rates of increase in demand of all the engineering disciplines. Graduates should, therefore, be able to find suitable job opportunities in the profession.

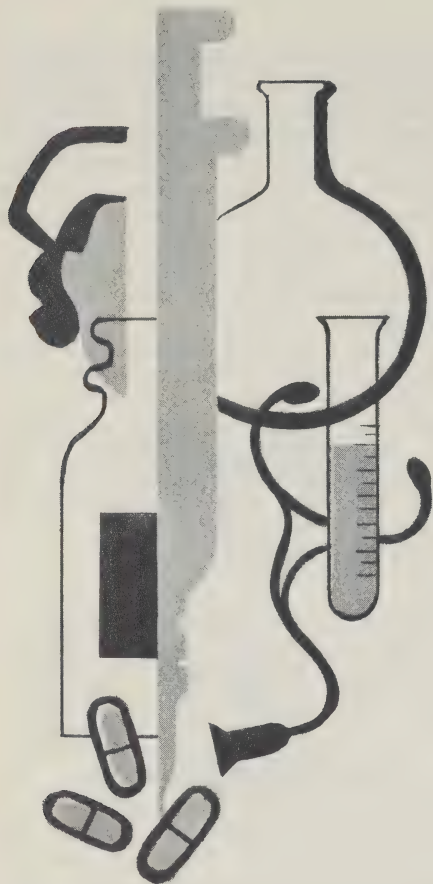
Graduates may find appropriate employment in the manufacturing industries or on operation and maintenance work in power plants. The scope of mechanical engineering is so wide and its services so basic, that the mechanical engineering graduate is in demand in a wide variety of industries in Canada.

## **HEALTH PROFESSIONS**

ALTHOUGH the graduating classes in the various health professions are showing some signs of growth, the shortage of qualified personnel shows no sign of abating. The demand for these graduates is therefore strong. The growing awareness of the need for proper health care and higher health standards, as well as the continuing expansion of Canada's health services, plus Canada's increasing population, are some of the factors which account for the current shortages in the health professions.

The Canadian Podiatry Association reports an increasing need for trained practitioners. They also report that in the U.S. this field of work is attracting an increasing number of graduates with a B.A. or B.Sc. degree. Although there is no Canadian college of podiatry, there are podiatry clinics at a number of hospitals (five in Toronto). The Association sees the establishment of a Canadian college of podiatry as the only way to meet present need for trained practitioners.

Most podiatrists are engaged in private practice although some prefer salaried positions with an established podiatrist. There are also some positions in hospital clinics and in the health clinics of some of the larger industrial concerns.



There is also a shortage of optometrists in Canada. In 1961 there were just over 1,400 optometrists registered in Canada, and this number has changed very little over the past ten years. A recent survey indicates that by 1970 there will need to be a minimum of 525 new graduates entering the profession in order to meet the needs of the expanding population. At the current rate of graduations this figure is not likely to be met.

The Canadian Psychiatric Association reports a serious shortage of psychiatrists. There is in Canada a ratio of one psychiatrist to every 30,000 people compared to one for every 14,000 in the U.S.A. and one for every 15,000 in the United Kingdom.

#### **Dentistry**

The need for dentists continues to be great. The rising standard of living, together with development of dental treatment service programs sponsored by commercial, professional or government bodies, should increase the demand for dental services.

At the beginning of 1963, the ratio of dentists to population was 1 to 3,100. The uneven distribution of dentists is a most pressing problem. On a provincial basis, the worst dentist-to-population ratios are still found in Newfoundland, New Brunswick and Saskatchewan, while great disparities in ratios occur in different areas of the same province.

The majority of dentists are self-employed. Some, however, are employed by school boards, hospitals, industry, and in the armed forces. In the dental schools, there is a very limited number of openings for those who can qualify as teachers and instructors.

Six Canadian universities now offer programs leading to degrees in dentistry and beginning in 1964, the University of British Columbia will offer an undergraduate dental program consisting of four years of professional study leading to the degree of Doctor of Dental Medicine (D.M.D.).

The 1964 graduating class will be about the same size as that of 1963, while there is expected to be more than a 20 per cent increase in the number of graduates in dental hygiene.

#### **Medicine**

There is still a shortage of medical practitioners in Canada with little likelihood of the supply meeting the demand for many years to come. The Canadian Medical Association reports that 1,400 doctors must be graduated annually by 1980 in order to meet the expected demand. Only 1,150 freshmen can be handled with the present facilities. In addition, the number of physicians who leave practice each year for various reasons is barely replaced by the number graduating from medical schools.

At present, there is an insufficient number of general practitioners in rural districts and sparsely settled areas of Canada. There are many opportunities in the fields of medical research, public health and preventive medicine.

In order to become a specialist in medicine it is necessary to spend from three to five years in intensive specialist training and practice before taking the qualifying examinations of the Royal College of Physicians and Surgeons of Canada. Included among the specialties are cardiology, dermatology, neurology and psychiatry. Some physicians and surgeons specialize within these groups by concentrating on one particular disease.



The 1964 graduating class will be of approximately the same size as that of the previous three years. Medical schools are graduating almost as many new doctors as their facilities will allow, and larger graduating classes cannot be expected until existing facilities expand or new medical schools are established. It is estimated that to meet future doctor needs, Canada will need to build two schools for another 500 students by 1976, each of which will be the size of the University of Toronto medical school.

### **Pharmacy**

The trend noted last year towards a decreasing number of pharmacy graduates will be reversed in 1964, as there will be an increase of approximately eight per cent in the number of graduates. This should help alleviate the existing shortage of pharmacists in Canada at present.

The employment outlook for the new graduate, both male and female, is very good, reports the Canadian Pharmaceutical Association. The majority of graduates find employment with retail pharmacies. Other fields that the new graduate may enter are in the rapidly expanding field of hospital pharmacy, as detail men, and with the Armed Forces and other federal agencies.

There are now eight colleges of pharmacy established in Canadian universities with seven of these now having courses leading to a Master's degree. In addition, a Doctor's degree program is now being offered at three universities.

Starting salaries for the new graduate have shown a considerable increase over the previous year and are now the highest reported among the Bachelor graduates.

### **Physiotherapy and Occupational Therapy**

There is still a marked shortage of qualified physical therapists in Canada. The Canadian Physiotherapy Association reports that some 1,200 of its members are in active practice throughout Canada, with the greatest numbers being centered in such cities as Ottawa, Toronto, Montreal and Vancouver. Graduates of the six universities offering this course are increasing this number yearly, but the supply is not expected to meet the demand in the near future.

The great majority of physical therapists are employed in hospitals as most general hospitals have now established physical therapy departments. A small hospital may employ only one physical therapist, whereas

the larger hospitals have staffs of varying size, sometimes consisting of up to 20 persons. Some physical therapists have private practices while others may work in doctors' offices. Hospital and health centres of the Department of Veterans Affairs and of the Army, Navy and Air Force all have physical therapy departments and maintain large staffs.

The demand for occupational therapists still far exceeds the supply. With the ever increasing demand for qualified occupational therapists in rehabilitation centres, the shortage will not be overcome in the foreseeable future. Since the majority of therapists have been up to this time young women, the annual loss to the profession is comparatively large due to marriage. The qualified occupational therapist can therefore advance fairly rapidly in her field.

Graduates may find excellent employment opportunities in a variety of institutions, including psychiatric institutions, convalescent and children's hospitals, rehabilitation centres, cerebral palsy clinics, tuberculosis sanatoria, homes for the aged and schools for the handicapped.

McGill University is the only Canadian school offering a B.Sc. degree in physical and occupational therapy. Graduate courses in physical therapy are offered at McGill University and the University of Toronto. These two-year courses are designed to prepare the graduate therapist to teach physical therapy, or to serve as head of a department in a teaching hospital.

The 1964 graduating class in the B.Sc. degree course at McGill University is expected to show a considerable increase over that of 1963. There will be a small increase in the number of diploma graduates from the various other schools offering physical and occupational therapy courses.

### **Veterinary Science**

Graduating students should experience little difficulty in finding suitable employment in the veterinary or related fields. The demand continues to remain high for qualified graduates and far outstrips the available supply.

Employment may be found in government service as meat inspectors and regulatory officers, in private practice, in commercial enterprises such as feed companies and meat packing firms, in research and in the academic field. Particularly good opportunities are available in rural areas where





the shortage of veterinarians is more pronounced.

As was the case last year, there is expected to be an increase of more than 20 per cent in the number of veterinary science graduates.

### **Nursing**

Canada's ratio of nurses to population is now 1 to 260. The Canadian Nurses Association reports this as one of the best ratios in the world. However, there do exist shortages of qualified nurses in certain branches of nursing in the various provinces in Canada.

Employment opportunities exist in all branches of nursing practice, e.g. public health and occupational health, as well as hospital nursing. There is a serious lack of personnel in mental hospitals and in rural areas. There is an increasing demand for nurses qualified for teaching, research, administration and supervision.

The provinces of Ontario and Quebec lose a good number of nurses annually to the United States, and the Atlantic provinces in turn lose nurses to Central and Western Canada. In fact, British Columbia usually gains more new nurses from outside the province each year than graduate from its hospitals and university courses.

In Alberta the shortage of nurses is acute in rural areas. It has been estimated that nearly 1,000 more nurses will be needed by 1967. The Manitoba Association of Registered Nurses also reports that there are shortages in rural areas. In Ontario, it is estimated that twice the number of nurses will have to be graduated from the present nursing schools if the supply is to keep pace with the demand.

The province of Quebec will need approximately 26 per cent more nurses to fill vacancies. In New Brunswick the prime need is for teachers for nursing schools while Prince Edward Island lacks administrative and supervisory nurses rather than regular nurses.

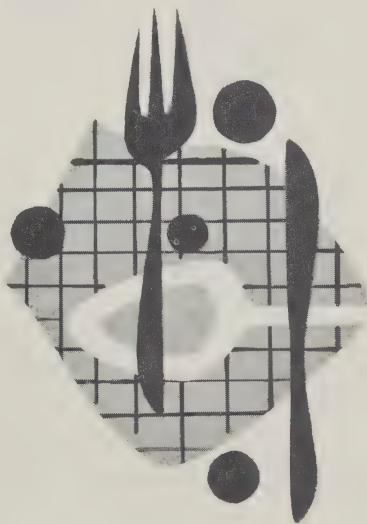
Nurses with advanced training are needed for senior positions in all fields of nursing and research. In an effort to meet this demand three Canadian university schools of nursing, the University of Western Ontario, McGill University and the University of Ottawa, offer programs of study at the Master's level.

The Canadian Nurses Association reports that the salary levels for registered nurses are improving and are becoming comparable to those paid in other professions requiring similar preparation.

### **HOUSEHOLD SCIENCE**

ALTHOUGH the supply of dietitians is increasing gradually, the current demands are still not being met. The increase may be ascribed to the integrated internship program whereby students experience internship education in the summers between undergraduate semesters. The Canadian Dietetic Association reports that the demand would appear almost equally divided between the need for junior dietitians in large centers, and for those with experience to serve as "only" dietitians in institutions in smaller cities and towns.

Graduates may find suitable employment in the food service field (restaurants, hospitals, universities and other institutions), with government agencies, in the field of



research, and in teaching at the university and secondary school levels. Those eligible for membership in the Canadian Dietetic Association continue to be in especially short supply and should find excellent employment opportunities.

Salaries, in general, are commensurate with experience and responsibility. Starting salaries paid by larger employers are good although it would appear that smaller employers are not always competitive.



## LAW

THE 1964 graduating class is expected to be some ten per cent larger than that of 1963. This is the second consecutive year in which graduations will exceed the previous year's total, in comparison with the large decreases experienced in 1961 and 1962.

The legal profession is at present experiencing a rapid expansion of its professional frontiers, and many excellent opportunities are available to capable and enterprising practitioners in both the traditional and newer fields of the profession. Some lawyers devote themselves exclusively to practice in the criminal or civil courts while others may specialize in such fields as corporation law, labour law, tax law and patent law.

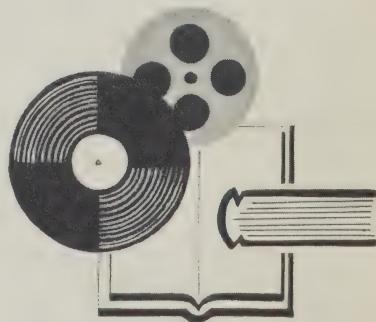
Although they represent only a small percentage of the total, an increasing number of law graduates are continuing their studies at the graduate level with a view to entering highly specialized practice, often on an international level. McGill University's Institute of Air and Space Law prepares graduates for entry into legal work with international organizations, government, aviation and aerospace industries.

## LIBRARY SCIENCE

DESPITE progressively larger graduating classes there is still a lack of qualified librarians in Canada and indications are that the supply will not meet the demand for many years to come. Graduates should experience no difficulty in finding suitable employment as all types of librarians are currently in great demand.

The Canadian Library Association reports that in the next four years close to 2,600 professional librarians will be required. The shortage is being felt most severely in the public libraries where 1,850 will be needed by 1967. Universities will need approximately 300 librarians during this period with special libraries requiring about 250 and government libraries (federal, provincial and municipal) about 150. A breakdown of total requirement by type of librarian shows that within this four-year period there will be needed 435 senior administrators, 510 reference librarians, 660 circulation librarians, 110 school librarians and 210 general librarians. The provinces having the greatest shortage are Quebec, which will require approximately 1,600 librarians, and Ontario which will require over 500.

Library education leading toward the B.L.S. degree is offered at five Canadian library schools. These are at the University of British Columbia, the University of Montreal, the University of Ottawa, McGill University and the University of Toronto. Graduates of approved universities and colleges in either arts or science may be accepted for the one-year course which prepares students for professional work in all types of libraries. McGill, Toronto and Ottawa also offer courses leading to the Master's degree while the universities of Ottawa and Montreal offer summer courses at degree level. Instruction is in French at the University of Montreal and in English and French at the University of Ottawa.







The basic qualification for professional librarianship is a Bachelor's degree in either arts or science plus one full year of training leading to a B.L.S. degree. In some cases,

provincial certification is also required.

Starting salaries have shown a modest increase over the past year.



## MINERAL SCIENCES & MINERAL ENGINEERING

SINCE 1960, there has been a steady decline in the number of graduates in the mineral sciences and in mineral engineering. This trend will continue in 1964 as there is expected to be a decrease of approximately five per cent in the combined total of graduates in the various mineral science and mineral engineering fields. The largest decreases are expected to be in mining and geophysical engineering. There will be no graduates in petroleum engineering in 1964, while metallurgical engineering will show only a slight variation from last year in the number of graduates in 1964. In honours geology and honours geophysics, small increases in the number of graduates are expected in 1964.

There have been indications of a renewed demand for graduates in some of the mineral science disciplines this year, and those entering the employment market should readily find suitable career opportunities. Demand for metallurgical and geological engineers is expected to rise annually by 3.1 per cent, for mining engineers by 2.3 per cent. Starting salaries for graduates in these disciplines are the highest in the engineering field.

The petroleum engineering degree at the Bachelor level has now been entirely discontinued at Canadian universities. However, the University of Alberta now offers two courses in petroleum reservoir mechanics to students in the senior years of

chemical and mechanical engineering, to enable them to be better prepared for careers in the petroleum industry. The graduate program leading to the M.Sc. in petroleum engineering is being continued, and will be modified to make it easier for other engineering students to register for graduate work in petroleum engineering.

At the University of Saskatchewan, graduate engineers may proceed to Master's course or to the one-year diploma course in petroleum engineering.

## Geology and Geological Engineering

In 1964 there is expected to be a drop of approximately 25 per cent in the number of geological engineering graduates, while the number of honours geology graduates is expected to show a small increase over the 1963 graduating class.

Employment prospects within the geological profession are not particularly encouraging at present, reports the Saskatchewan Geological Society, and discernible trends hold no prospect of immediate improvement. The Geological Association of Canada reports that by autumn the supply of geologists in Canada is expected to exceed the demand. This situation is reflected in the present fall-off in enrolments in the majority of geology schools.

A graduate degree, preferably a Ph.D., is rapidly becoming essential to advancement within the profession. Those possessing a graduate degree should have little difficulty in finding employment, while those with Bachelor degrees will find their job opportunities are strongly influenced by economic developments. Approximately one-half of the geologists in Canada now possess higher degrees.

Starting salaries are slightly higher than last year and remain among the highest initial salaries offered to the 1963 graduate.

## Geophysics and Geophysical Engineering

There will not be any graduates in the field of geophysical engineering in 1964, reports the Canadian Institute of Mining and Metallurgy. However, three graduates at the Master's level are anticipated.

Only four graduates from three universities are expected in honours geophysics (or honours physics and geology) in 1964. This is less than one-fifth the number of graduates reported for 1963. There will be, however, seven graduates at the Master's level and nine Ph.D. graduates in 1964.





The trend observed in the past few years is for graduates in honours geophysics to continue their education at the graduate level, as advanced degrees are generally needed for the more senior positions.

The employment prospects are generally good and the few graduates from these disciplines should be able to secure suitable employment. The majority of the employment opportunities are still with government agencies; the major oil companies employ only a limited number of new graduates each year.

### **Mining and Metallurgical Engineering**

There is expected to be a small decrease in the number of mining engineering graduates in 1964. However, in the field of metallurgical engineering a rather large increase of approximately 25 per cent in the number of graduates is foreseen.

The Canadian Institute of Mining and Metallurgy reports that there is still a steady demand for graduates from the mining and metallurgical engineering field.

Because Canada has such vast mineral resources, the future of the Canadian metallurgical industry is quite promising. The abundance of metals has always meant that the basic industries have needed trained metallurgists, but as manufacturing becomes more and more a major part of the Canadian industry the need for metallurgists in this segment of industry increases yearly. Many companies have now instituted research and development divisions, and because of the broad training the metallurgist received he plays an increasingly important role in these new developments. For example, metallurgists are now being employed in fundamental research on the physics and chemistry of solids. Well-qualified graduates should, therefore, experience little difficulty in finding suitable employment.

Starting salaries for the new graduate are very good, with mining engineers receiving the highest initial salary of any of the engineering disciplines. For those with graduate training, starting salaries are excellent.

### **PHYSICAL SCIENCES**

DURING the past four to five years, enrolments in the various physical sciences courses have increased at a very rapid rate. As a result, the number of students in each graduating class has increased sharply in

the past two years. In 1963, there was a 15 per cent increase in the number of graduates over the 1962 class, and in 1964, the total increase is expected to be some 25 per cent over the 1963 class. The largest increases are expected in the fields of mathematics and physics, while chemistry will show a more conservative rise. This trend can be expected to continue for the next few years as enrolments in these disciplines continue to rise sharply.

The demand for graduates is strong and opportunities are plentiful for the well-qualified graduate. By 1964, it is estimated that 5.4 per cent more personnel will be



needed, the universities alone requiring an increase of approximately nine per cent in teaching staff in the physical science field. Mathematicians and graduates in physics continue to be those most in demand. Because of the increasing complexity of modern technology, the continued growth of industry, the development of research and the rising university enrolments, a vigorous demand is expected for years to come.

Full professional qualification for a scientist generally involves possession of a graduate degree, preferably a Ph.D. Approximately 20 per cent of all scientific and technical professionals now employed in Canada possess at least one graduate degree. There are, however, good employment opportunities available for those with





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a Master's degree and for honours graduates at the Bachelor level.

Starting salaries in all fields have shown an increase, while the salaries for those with a graduate degree are among the highest reported.

### **Chemistry**

Continuing the trend begun in 1963, there will again be an increase in the number of graduates in honours chemistry. The 1964 graduating class is expected to be almost 20 per cent larger than that of 1963.

The demand is still strong for qualified chemists. For example, a survey conducted by the Department of Labour states that six per cent more chemists will be needed by 1964.

An increasing proportion of the graduates in honours chemistry now continue their studies leading to the Ph.D. degree. Approximately 40 per cent of the chemists in Canada have some graduate training, with one-half of these possessing a Ph.D. University staff requirements for graduates at this level are increasing, in order to meet the need for instructors in physical science courses in which enrolment has grown considerably.

The Chemical Institute of Canada reports that the industrial demand for chemists at the Bachelor's level is being met to some extent by graduates with a major in chemistry. While not generally suitable for a research career, such training may be acceptable for technical, sales and plant control functions.

Starting salaries for Bachelor graduates have shown a modest increase over the past year while salaries for graduates at the Master's and Doctorate levels are excellent.

### **Mathematics**

A rather large increase of 35 per cent is expected in the number of graduates in mathematics in 1964. This continues the trend of rising graduating class totals noticed in the past few years when there were increases of 13 and 22 per cent in 1962 and 1963 respectively.

There is at present a strong demand for graduates in mathematics, making the employment outlook very good for the 1964 graduate. The Department of Labour survey indicates that 11 per cent more mathematicians will be required by government, industry, colleges and universities by 1964. This renewed demand can be partially attributed

to the increased demand for chemists and physicists, since mathematics is fundamental to all sciences. The demand for mathematicians is likely to continue in the foreseeable future. Expanding research and increasing use of electronic computers will continue to require the services of the mathematician. In addition, many new teachers of mathematics will be needed to provide for larger enrolments and to meet the demand for advanced training in the science and engineering fields.

Graduates in mathematics will find many good employment opportunities in the teaching profession, in government and in industry. Graduates may also find opportunities in the actuarial field and in the computer field in the electronic processing of accounting and business information. However, some 60 per cent of mathematicians are engaged in teaching, two-thirds of them at the secondary school level. With the rapidly increasing enrolments many more teachers will be needed, particularly at the university level. A graduate degree, preferably a Ph.D., is generally required for a university teaching career.

### **Physics**

The 1964 graduating class is expected to be approximately 40 per cent larger than that of 1963. There will be, however, a small decrease of about five per cent in the number of engineering physics graduates.

Prospects for careers in the various fields employing physicists are very good and there is every likelihood that they will be even better in the future. This is one of the fastest-growing professions and the demand for new graduates is strong.

Approximately one-half of the professional physicists are employed in government service. The Defence Research Board, National Research Council and the Atomic Energy Commission employ a large portion of the physicists in government service. In the academic field, an honours degree is sufficient qualification for a secondary school teaching career. However, a graduate degree, preferably a Ph.D. is required in order to teach at the university level. A graduate degree is virtually essential for advancement in the profession as more than 60 per cent of the physicists in Canada now have such qualifications.

Although not as plentiful as government or academic positions, there are some job opportunities available in industry. The ma-



major areas of employment in industry are in the fields of communication, electronics, instrumentation, metal refining, oil prospecting, and computing and power development.

Physics includes the fields of astronomy and meteorology. Federal government agencies are the major employers of graduates specializing in these fields. Honours graduates in mathematics and physics, physics or engineering physics are employed by the Meteorological Service of Canada. During their first two years of employment, these meteorologists are required to attend, for two academic sessions, the Master's degree course in meteorology at the University of Toronto or McGill University.

## SOCIAL WORK

SOCIAL workers are in very short supply. The Canadian Association of Social Workers reports that the need for professional personnel in all social services is very great, and no priorities can be established between them. Indications are that the supply will not meet the demand in the foreseeable future, and the shortage can be expected to continue for at least the next three to four years.

In Canada, the basic education required for the profession of social work is two years of education at the graduate level leading to a Master's degree. There are eight schools of social work in Canada, seven of

which are accredited by the Council on Social Work Education, of which the Accrediting Commission sets the standards of Canadian schools and assesses those of American schools. Beginning in 1964, the The Canadian Association of Social Work will be two years of professional social work education in a recognized graduate school of social work. Exceptions are made, in cases where social workers received social work training in recognized schools or departments of social work in other countries, after a period of satisfactory service in Canada.

There are excellent employment opportunities for the qualified graduate. Social workers are employed in federal government departments, such as the Department of National Health and Welfare, Department of Justice, and the Department of Citizenship and Immigration. In provincial government service, the social worker may be employed by the Departments of Public Welfare, Health and Corrections, while municipal governments may employ a number of social workers in Juvenile and Family Courts, and in family welfare agencies.

National voluntary organizations such as the Canadian Welfare Council and the Canadian National Institute for the Blind plus the local voluntary or semi-public organization such as youth serving agencies (Big Brother Movement, Y's), settlement houses and neighbourhood centres, also offer attractive opportunities for the new graduate.



## NES STUDENT PLACEMENT SERVICE

THERE are 15 campus placement offices in Canadian universities and colleges, serving approximately one-half the total Canadian university enrolment. In addition, regular staff from local National Employment Offices provide assistance to students of those institutions where there are as yet no NES campus placement offices.

Students desiring assistance in finding suitable employment are individually interviewed by NES officers in order to determine interests, abilities and qualifications. These students can then be referred by the placement officers to the appropriate employers. This is done by direct referral to local employers, by the use of NES referral facilities for out-of-town employers, or by the arrangement of interview schedules for visiting recruiters at the 15 campus placement offices.

The recruiting of university students is a continuous process which begins early in the academic year and continues up to final examination time. Almost all of the major national employers are active in this recruit-

ing and most of these firms send recruiting teams to one or more of the universities. Local employers are also active recruiters, but seldom send recruiting teams to the campus itself.

Almost 7,000 students registered with the various NES student placement offices during the 1962-63 academic year. Although final figures concerning those placed in permanent employment are not as yet available, it is expected that some 3,000 students will have been placed. An indication of the progress being made by the National Employment Service in placing graduate and graduating students is shown by the fact that, during an 11 year period, NES placements increased from approximately 900 to 3,000.

The NES Student Placement Service concentrates mainly on the permanent placement of graduating and graduate students. However, assistance in finding summer jobs and part-time employment is also given to undergraduates as well as to those engaged in graduate studies.



## INSTITUTIONS OF HIGHER EDUCATION

*NOTE: The NES operates a full-time placement service on the campus of each of the undernoted institutions marked with an asterisk. A placement service is provided to the remaining institutions, as well as others, from the nearest NES office, except as otherwise indicated.*

### NEWFOUNDLAND

- \* Memorial University of Newfoundland, St. John's

### PRINCE EDWARD ISLAND

- Prince of Wales College, Charlottetown
- St. Dunstan's University, Charlottetown

### NOVA SCOTIA

- Acadia University, Wolfville
- Collège Sainte-Anne, Church Point
- \* Dalhousie University, Halifax
- Mount Saint Vincent College, Halifax
- Nova Scotia Agricultural College, Truro
- Nova Scotia Technical College, Halifax
- Saint Francis Xavier University, Antigonish
- Saint Mary's University, Halifax

### NEW BRUNSWICK

- Mount Allison University, Sackville
- New Brunswick Technical Institute, Moncton
- Saint Thomas University, Chatham
- Université du Sacré-Coeur, Bathurst
- University of New Brunswick, Fredericton
- Université Saint-Louis, Edmundston
- Université Saint-Joseph, Moncton

### QUEBEC

- <sup>1</sup> Bishop's University, Lennoxville
- Collège Jean-de-Brébeuf, Montréal
- Collège Sainte-Marie, Montréal
- Ecole des Beaux-Arts, Montréal
- \* Loyola College, Montreal
- Macdonald College, Ste-Anne-de-Bellevue
- McGill University, Montreal
- Montreal Institute of Technology, Montreal
- \* Sir George Williams University, Montreal
- \* Université de Montréal, Montréal
- \* Université de Sherbrooke, Sherbrooke
- \* Université Laval, Québec

### ONTARIO

- Carleton University, Ottawa
- Lakehead College of Arts, Science and Technology, Port Arthur

- Laurentian University of Sudbury, Sudbury
- McMaster University, Hamilton
- Ontario Agricultural College, Guelph
- Ontario Veterinary College, Guelph
- Osgoode Hall Law School, Toronto
- Queen's University at Kingston, Kingston
- Royal Military College of Canada, Kingston
- Ryerson Institute of Technology, Toronto
- \* Université d'Ottawa, Ottawa
- University of Toronto, Toronto
- University of Waterloo, Waterloo
- University of Western Ontario, London
- \* University of Windsor, Windsor
- Waterloo University College, Waterloo
- York University, Toronto

### MANITOBA

- Brandon College, Brandon
- <sup>2</sup> United College, Winnipeg
- \* University of Manitoba, Fort Garry, Winnipeg

### SASKATCHEWAN

- \* University of Saskatchewan, Saskatoon
- University of Saskatchewan, Regina Campus, Regina

### ALBERTA

- Mount Royal College, Calgary
- \* Northern Alberta Institute of Technology, Edmonton
- \* Southern Alberta Institute of Technology, Calgary
- \* University of Alberta, Edmonton
- \* University of Alberta in Calgary, Calgary

### BRITISH COLUMBIA

- Notre Dame University College, Nelson
- University of British Columbia, Vancouver
- \* Victoria University, Victoria

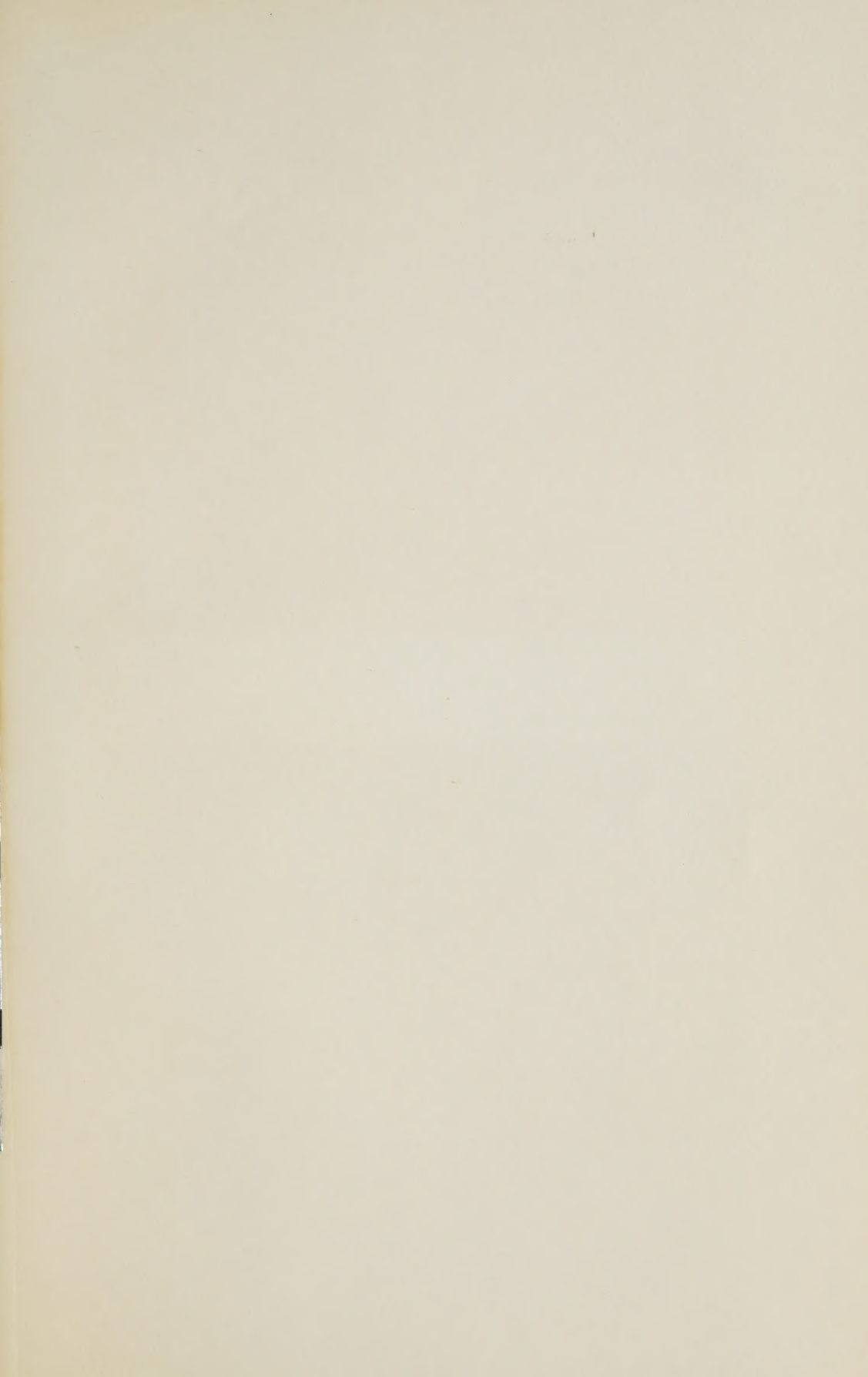
<sup>1</sup> Placement service handled by NES officers at Université de Sherbrooke.

<sup>2</sup> Placement service handled by NES officers at the University of Manitoba.

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